

REMARKS

Claims 1-14 are pending in this application. Claims 1-7 have been amended to clarify the invention. Claims 8-14 have been added. No new matter has been added.

The Office Action rejects claims 1 and 4 under 35 U.S.C. § 102(e) as being anticipated by Novak (U.S. Patent No. 6,753,481 B2) (hereinafter *Novak*). Applicants respectfully traverse these rejections.

Novak fails to disclose every element of independent claims 1 and 4. *Novak* fails to disclose at least:

wherein at least one physical parameter associated with the inter-plane impedance is selected such that the characteristic impedance value of the dual referenced transmission line does not exceed the characteristic impedance tolerance value with respect to the first and second conductive planes

as recited in independent claim 1 and similarly recited in independent claim 4.

The Office Action admits that *Novak* “does not expressly disclose how to measure the characteristic impedance of the microstrips.” Office Action at p. 3, ¶ 3. More importantly, *Novak* fails to consider how any “physical parameter associated with the inter-plane impedance [could affect] the characteristic impedance value of the dual referenced transmission line ...” as recited in independent claims 1 and 4.

Novak relates to “providing a power distribution network wherein the electrical impedance between parallel conductive planes may be stabilized.” *Novak* at col. 3:57-59. *Novak*’s reference to “conductive planes” is a reference to power and ground planes, not to a signal routing trace plane. *See, e.g., id.* at col. 3:65 - col. 4:1 (“an interconnecting apparatus employing a lossy power distribution network to reduce power plane resonances.”) (emphasis added); *see also* col. 3:18-22; col. 7:66-8:4. Consequently, *Novak*’s disclosure is not concerned with the characteristic impedance of signal routing traces as implied by the Office.

Novak is concerned with reducing resonances between the conductive power and ground planes by placing limits on the dielectric loss tangent of the dielectric material between planes or by separation of the planes. *See id.* at col. 5:61 - col. 8:18. *Novak* never discloses selection of “at least one physical parameter associated with the inter-plane impedance ... such that the characteristic impedance value of the dual referenced transmission line does not exceed the characteristic impedance tolerance value” as recited in independent claims 1 and 4.

For the above-stated reasons, the 35 U.S.C. § 102(e) rejections of claims 1 and 4 in light of *Novak* should be withdrawn.

The Office Action rejects dependent claims 2, 3, 5-7 under 35 U.S.C. § 103(a) as being unpatentable over *Novak* in view of U.S. Patent No. 5,717,231 to Tserng *et al.* (hereinafter *Tserng*). Applicants submit that *Tserng* fails to cure the deficiencies of *Novak*.

Tserng relates to a flip-chip integrated circuit having passive as well as active components on a frontside surface of a substrate. The active devices have airbridges that contact a heatsink to provide heat dissipation from the junctions of the devices. *See* abstract. The Office relies on *Tserng* to disclose “the parameters for determining the characteristic impedance for microstrip lines (column 4, lines 15-17).” Office Action at p. 3, ¶ 3. For the convenience of the Office, the cited lines are reprinted below:

As in microstrip, the characteristic impedance of a line is dependent on the ratio of the width of the line 302 to the line’s height above the groundplane 314.

Note that *Tserng* is only concerned with a single referenced transmission line. *Tserng* does not disclose, teach, or suggest anything related to dual referenced transmission lines and consequently never discloses, teaches, or suggests at least:

wherein at least one physical parameter associated with the inter-plane impedance is selected such that a characteristic impedance value of the dual referenced transmission line does not exceed the characteristic impedance tolerance value with respect to the first and second conductive planes

as recited in independent claim 1 and similarly recited in independent claim 4.

For the reasons cited above, *Novak*, when considered alone or in combination with *Tserng*, fails to disclose each and every element of independent claims 1 and 4. Accordingly these claims are allowable over the cited art. It stands to reason that dependent claims 2, 3, and 5-7, which depend from independent claims 1 and 4, respectively, are likewise allowable. Accordingly, the 35 U.S.C. § 103(a) rejections of dependent claims 2, 3, and 5-7 should be withdrawn.

Conclusion:

The claims are allowable over the prior art for the reasons set forth above. A Notice to that effect is respectfully requested.

The Office is hereby authorized to charge all required fees, including all required claim fees under 37 C.F.R. § 1.16 and/or all required extension of time fees under 37 C.F.R. § 1.17, or credit any overpayments to Deposit Account 11-0600.

If the Examiner believes, for any reason, that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at the number provided.

Respectfully submitted,

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